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Woburn, Massachusetts 01801
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781.932.9400
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June 29, 2012

Kim Tisa, PCB Coordinator
U.S. Environmental Protection Agency, Region 1
5 Post Office Square, Suite 100
Mail Code: OSRR07-2
Boston, Massachusetts 02109-3912

Via e-mail

Re: Modification to Risk-Based Disposal
Andrew J. Petro Swimming Pool
Randolph Street
Southbridge, Massachusetts 01550
ATC Project No. 060.29841.0002

Dear Ms. Tisa:

On behalf of the Massachusetts Department of Conservation and Recreation (DCR), this letter is submitted to serve as a modification to the PCB abatement plan conditionally approved by the EPA's May 10, 2012, letter. This modification is submitted in accordance with Condition 18 of the approval and 40 CFR § 761.61(a)(3)(ii). The modification involves a change in the epoxy based encapsulant to be utilized for floor surfaces.

The Modification to the Notification and Response to EPA Comments (ATC, February 1, 2012) included Technical Specification 09990 – Seamless Quartz Flooring. This Specification identified the flooring encapsulant to be used as the Dur-A-Flex, Inc., Hybri-Flex EQ system. This system is being replaced with the HE 1209 Color Quartz UV Light Stable Chemical and Skid Resistant Double Broadcast 1/8-inch System. As with the originally proposed flooring encapsulant, it is a multi-layer system that incorporates an epoxy resin. The project architect has concluded that this is an "of equal" product. Product literature is enclosed.

The contractor plans on starting floor encapsulation work on or after July 23, 2012. If you have any questions, please contact Michael Gitten at (781) 404-1439 or via email at michael.gitten@atcassociates.com.

Sincerely,
ATC Associates Inc.

Michael Gitten, LSP, PE
Division Manager, Environmental Services

Attachments Floor Encapsulant Information

cc: Mr. Robert Lowell, DCR
Ms. Judy O'Kula, DCR
Henry Sarkis, New England Builders & Contractors
Thomas Scarlata, Bargmann Hendrie + Archetype, Inc.

FAX COVER **Date: 6/20/12**

To: Henry

Company: New England Builders

Phone: 978-685-3990
Fax: 978-682-0550

Total pages: 7 including cover sheet

From: Charlene Bonadies

CBC Liberty Enterprises, LLC
P.O. Box 74
Medfield, MA 02052-0074

Fax: 508-242-9775

Comment: Petro Pool

Installation procedures as per e-mail request are as follows:

1. **Fill all voids / joints at floor and wall juncture (875 L.F.) with epoxy mortar / control joint material as required.**

2. **Fill joints in concrete slab with epoxy mortar / control joint material.**

3. **Fill, patch or smooth areas of flooring as required with epoxy mortar.**

4. **Follow RBC 1209 Quartz installation and application instruction sheets (enclosed).**

Also enclosed is RBC HE 1209 Data Sheet & HEF-Control Joint Data Sheet.

Thank you for all your help.

Charlene Bonadies
President
CBC Liberty Enterprises, LLC

RBC INDUSTRIES, INC.

IHE 1209

Hallemite® Product Line

Colorquartz™ ULTRA-VIOLET LIGHT STABLE DOUBLE BROADCAST CHEMICAL and SKID RESISTANT 1/8 INCH SYSTEM

APPLICATION SEQUENCE	METHOD OF INSTALLATION	PRODUCTS AND MIX RATIOS	COVERAGE RATE PER USA GALLON/POUND (APPROXIMATE)
Step 1 PRIMER	Roller or Squeegee/Roller	HEF-LV UV (Mix Ratio A2:B1) Pot Life 25 Minutes	250 sq ft per gal 4 gal per 1000 sq ft
Step 2 BODY COAT/ RECEIVING COAT	Notched Squeegee and Backroll	HEF-LV UV (Mix Ratio A2:B1) Pot Life 25 Minutes	145 sq ft per gal 7 gal per 1000 sq ft
Step 3 BROADCAST Colorquartz	Hand and/or Mechanically Seed	S Grade 3M Colorquartz or Equal	0.4 lb sq ft (net) 400 lb per 1000 sq ft
Step 4 REMOVE EXCESS AGGREGATE	Broom or Vacuum		Re-use Excess Aggregate, but **Only if Clean**
Step 5 GROUT COAT BODY COAT	Spring Steel Trowel and Backroll or Squeegee and Backroll	HEF-LV UV (Mix Ratio A2:B1) Pot Life 25 Minutes	67 sq ft per gal 15 gal per 1000 sq ft or 85 sq ft per gal 12 gal per 1000 sq ft
Step 6 BROADCAST Colorquartz	Hand and/or Mechanically Seed	S Grade 3M Colorquartz or Equal	0.3 lb sq ft (net) 300 lb per 1000 sq ft

APPLICATION SEQUENCE	METHOD OF INSTALLATION	PRODUCTS AND MIX RATIOS	COVERAGE RATE PER USA GALLON/POUND (APPROXIMATE)
Step 7 REMOVE EXCESS AGGREGATE	Broom or Vacuum		Re-use Excess Aggregate, but **Only if Clean**
Step 8 GROUT COAT BODY COAT	Spring Steel Trowel and Backroll or Squeegee and Backroll	HEF-LV UV (Mix Ratio A2:B1) Pot Life 25 Minutes	67 sq ft per gal 15 gal per 1000 sq ft or 85 sq ft per gal 12 gal per 1000 sq ft
Step 9 (OPTIONAL) LIGHTLY SAND	If Necessary, Lightly Sand Floor		
Step 10 REMOVE SANDING RESIDUE	Vacuum and Solvent Wipe		
Step 11 TOPCOAT	Squeegee and Backroll	HEF-LV UV (Mix Ratio A2:B1) Pot Life 25 Minutes	250 sq ft per gal 4 gal per 1000 sq ft

NOTE: The Guideline Numbers are for estimating purposes only. Wastage, uneven concrete and other unforeseen site conditions may effect the actual yields.

RBC INDUSTRIES, INC.

System Data Sheet
HE 1209

Hallemite® Product Line

COLOR QUARTZ UV LIGHT STABLE CHEMICAL and SKID RESISTANT DOUBLE BROADCAST 1/8 INCH SYSTEM

Architectural Resin and Colored Aggregate Flooring System

PRODUCT DESCRIPTION

HE 1209 Color Quartz UV Light Stable Chemical and Skid Resistant Double Broadcast 1/8 Inch System is an aesthetically pleasing, 100% solids clear epoxy resin and colored aggregate flooring system which is installed at a nominal thickness of 1/8 inch.

HE 1209 Color Quartz UV Light Stable Chemical and Skid Resistant Double Broadcast 1/8 Inch System is available in 14 standard solid colors and 18 standard color blends. The color quartz aggregates can be custom blended to create an infinite number of proprietary custom patterns.

HE 1209 Color Quartz UV Light Stable Chemical and Skid Resistant Double Broadcast 1/8 Inch System is extremely attractive, durable and chemical resistant. The inorganic naturally occurring quartz granules are color coated using state-of-the-art ceramic coating technology for lasting color stability.

This attractive flooring system is ideal for most commercial, institutional and light industrial installations where a durable, seamless, chemically resistant, and aesthetically appealing flooring system is required. For higher chemical resistance see HE 1206 Color Quartz Novolac Chemical, High Temperature and Skid Resistant Double Broadcast 1/8 Inch System.

ADVANTAGES

- Meets or Exceeds USDA, FDA and OSHA Requirements
- Resistant to UV Degradation
- Available in 18 Standard Patterns
- Custom Patterns *(infinite number of designs)*
- Surface Texture, Smooth to Aggressive
- Skid Inhibiting for "can't dry areas"
- Resistant to Algae, Fungi, Mildew & Mold *(does not promote bacterial growth)*
- Resistant to Mechanical Wear
- Resistant to Chemical Attack and Etching

PRODUCTS REQUIRED

HE 1209 Color Quartz UV Light Stable Chemical and Skid Resistant Double Broadcast 1/8 Inch System is comprised of the following clear technologies:

Primer	HEF UV Clear
Bond Coat	HEF UV Clear
Broadcast Aggregate	Color Quartz S Grade or Equal
Bond/Grout Coat	HEF UV Clear
Broadcast Aggregate	Color Quartz S Grade or Equal
Grout and Lockcoat	HEF UV Clear
Optional Clear Topcoats	
1. Standard Topcoat	HEF UV Clear
2. Orange Peel Topcoat	HEF UV OP Clear
3. Polyester/Urethane	HUF 1186 Clear

Note: HEF UV has a greater amount of air release. In mass the material appears cloudy, however in thin film the material is clear.

Note: Primer recommended on concrete to avoid "out-gassing" (air bubbles) related problems associated with porous concrete.

COLOR QUARTZ - S GRADE - SOLID COLORS

Black #5013, White #9073, Blue #8043, Red #2063, Brown #4013, Buff #6073, Green #3033, Tan #6023, Cayman Green #3143, Grey #7043, Plum #2163, Smoke #7133, Opaque #0000

STANDARD COLOR PATTERNS

Standard color quartz patterns are blends of the solid colored color quartz and are unique to RBC Industries. *(See Selector Chart for Patterns)*

CUSTOM COLOR PATTERNS

Custom color quartz patterns can be blended by the specifier and by the flooring specialty contractor to create a proprietary custom look for the end user. The custom patterns are created without the expense of custom colorization of the aggregate.

TYPICAL PHYSICAL PROPERTIES

Tensile Strength,	
ASTM D 638	5,000 psi
ASTM C 307	2,650 psi
Compressive Strength,	
ASTM D 695	17,520 psi
ASTM C 579	12,900 psi
Bond Strength,	>400 psi
ASTM D 4541	
Impact Strength, Passing	No Chipping, Cracking
MIL D 3134	or Delaminating
Hardness (Resin)	75 - 80
ASTM D 2240 Shore D	
Flexural Strength	
ASTM D 790	6,300 psi
ASTM C 580	4,550 psi
Abrasion Resistance	23 mg
ASTM D 4060,	
CS 17 Wheel 1000 gram load, 1000 cycles	
Water Absorption,max.	0.04%
ASTM D 570	
Flammability	Self Extinguishing
ASTM D 635	
UV Exposure, QUV @ 72 hours	1.25 – 1.60
ASTM D 4587	
Yellow Index	<15 @ 2000 Hours
ASTM D 1925	
Anti-Microbial Resistance	Passes
ASTM G 21	

CHEMICAL RESISTANCE

Chemical Resistance	Immersion 7 Day
ASTM D 1308	

(See Hallemite Chemical Resistance Guide)

SLIP RESISTANCE & CLEANABILITY

Normally, the smoother the finished surface, the easier the coating or flooring system is to clean. The more aggressive or textured systems offer a greater degree of skid inhibition, but are usually more difficult to clean.

CLEANING AND DISINFECTING

Cleaning and disinfecting compounds and cleaning techniques may affect the color, gloss, or texture of a polymer coating or flooring system. As a precautionary step, Hallemite recommends that the end user test the cleaning and disinfecting compounds on a sample or small finished area utilizing the intended cleaning technique prior to cleaning the entire surface area.

If no deleterious effects are observed, the procedure can be continued. However, if the cleaning and disinfecting compounds or cleaning technique damage the color, gloss, or texture, modification of the materials and/or procedures are required.
Contact the Company's Technical Service Department for more information.

LIMITED WARRANTY (abridged)

Neither seller nor manufacturer has any knowledge or control concerning the purchaser's use of the system/product. No express warranty is made by the seller or manufacturer with respect to the results of any use of the product. NO IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO AN IMPLIED WARRANTY OF MERCHANTABILITY, OR AN IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE ARE MADE WITH RESPECT TO THIS SYSTEM/PRODUCT. Neither seller nor manufacturer assumes any liability for personal injury, loss, or damage resulting from the use of this product. In the event that the product shall prove defective, buyer's exclusive remedy shall be as follows: Seller or manufacturer shall, upon written request of buyer, replace any quantity of the system/product which is proven to be defective, or shall, at its option, refund the purchase price for the system/product upon return of the system/product.
(See Hallemite Price Schedule for full limited warranty)

SPECIAL NOTE: The Company reserves the right to alter or discontinue the system/product described herein at any time without prior notice.

QUESTIONS?

For questions on product availability or to obtain installation instructions, contact the RBC Industries, Hallemite Products Sales Department.

KEEP OUT OF REACH OF CHILDREN BEFORE AND DURING PLACEMENT

RBC Industries, Inc.
80 Cypress Street
P.O. Box 8340
Warwick, RI 02888

800-272-7752
401-941-3000
401-941-0150 fax

RBC INDUSTRIES, INC.

Data Sheet
HEF – Control Joint

Hallemite® Product Line

HEF – CONTROL JOINT
SEMI-RIGID EPOXY FILLER
Control Joint and Non-Structural Crack Filler System

PRODUCT DESCRIPTION

HEF – CONTROL JOINT FILLER is a two component, 100% solids, semi-rigid epoxy. It is designed to reinforce and protect joint nosing and filling non-structural cracks on interior concrete slabs.

HEF – CONTROL JOINT FILLER was developed specifically as a control joint filler and non-structural crack filler for industrial, institutional and commercial concrete floor slabs to prevent joint edge deterioration when the joint is subjected to impact loads from hard wheeled tires and forklifts.

HEF – CONTROL JOINT FILLER can be used on all types of interior joint sand non-structural cracks, but may separate at or near the bond line of the concrete or tear cohesively when subjected to movement from shrinkage or deflection. Separation or tearing normally does not affect the reinforcement "function" of the material.

HEF – CONTROL JOINT FILLER is not an elastomeric expansion material or a waterproofing material. It reinforces the joint nosing and is designed to minimize spalling and excessive wear of the joint. HEF - CONTROL JOINT FILLER provides a smooth transition from one slab to the next and therefore minimizes damage to forklifts and other equipment.

ADVANTAGES

- Reinforces Control Joints and Extends the Life of the Concrete Floor
- Provides a Smooth Transition from One Slab to the Next, Extending the Service Life of Forklifts and Other Equipment
- Excellent Low Temperature Performance
- Durable and Long Lasting
- Resistant to Mold, Mildew, and Fungi (does not promote bacterial growth)
- Resistant to Mechanical Wear

PRODUCT SELECTION

- "HEF CJP (POURABLE)"
  Available in Standard Pigment Colors
  Lt Grey, Grey, Tile Red or White
  Also Available in Clear
  Note: Will Amber Over Time
- "HEF CJT (TROWELABLE)"
  Non-Sag Gun Grade

TYPICAL PHYSICAL PROPERTIES
@ 75°F (23°C)

Physical Property	Test Method	Result
Tensile Strength, min	ASTM D 638	>800 psi
Tensile Elongation at break		>50%
Compressive Strength, min	ASTM D 695	1,800 psi
Bond Strength, min	ASTM D 4541	>400 psi
Impact Strength	MIL D 3134	Passing No Chipping, Cracking or Delaminating
Hardness	ASTM D 2240 Shore D	50 – 55
Water Absorption, max	ASTM D 570	0.2%
Flammability	ASTM D 635	Self Extinguishing
Mix Ratio	A:B	1:1
Potlife	150 gr	30 Minutes, Min.
Working Time	1 Gallon	20 Minutes, Min.
Open to Traffic		6 – 10 Hours
Packaging	Unit Sizes	2 Gal Kit (1A:1B)
		10 Gal Kit (5A:5B)
Storage Temperature		55°F to 90°F

(Note: Pot Life is shorter at higher temperatures. Do not use below 55°F or above 95°F.)

SURFACE PREPARATION

Concrete substrate must be sound and durable, and free of dirt, curing compounds, oils, laitances, and other contaminates. New concrete should be cured a minimum of 28 days. Suitable preparation methods include sandblasting, water cutting, grinding and sawing.
See ACI 503 for more details.

80 Cypress Street – Warwick, RI 02888 – (P) 800-272-7752 – (F) 401-941-0150
hallemite.com

CONCRETE MOISTURE CONCERNS

Moisture vapor transmission in the slab should be measured prior to application of polymer systems to ensure a long lasting, durable installation. Please refer to the master "Guideline Instructions for Concrete Substrate Surface Preparation – Appendix B" for more information.

LIMITATIONS

This product is best suited for application in temperatures between 55°F and 95°F. Substrate must be clean, sound and dry.

DRAWINGS AND DETAILS

Standard engineered drawings and details are available for drains, coves, transitions, etc. Please refer to the "Useful Information" section of the Hallemite product book for actual drawings.

MIXING and APPLICATIONS

Premix A and B. Mix A and B together per the manufacturer's mix ratio for 3 to 5 minutes, with a Jiffy type mixer at 350 to 400 RPM.

Saw cuts, in most slabs should be a minimum of 2 inches or more in depth. For superior performance, place fine 1/8" to 1/4" silica sand (US Sieve 40 mesh or smaller) at the bottom of the joint and fill joint until there is slight convexed crown with HEF - CONTROL JOINT FILLER.
HEF - CONTROL JOINT FILLER material shrinkage is negligible, however some material may "drain" from the joint creating a concaved joint filler line. If this is noticed while the material is still fluid, dust with silica sand to bring the surface back to level or reapply HEF - CONTROL JOINT FILLER. After cure, abrade with sandpaper or a wire brush and re-top with HEF - CONTROL JOINT FILLER.

Note: Compressive backer rods are not normally recommended for joint reinforcing applications.

LINEAR FEET PER U.S. GALLON

JOINT DEPTH IN INCHES	YIELD IN FEET @ WIDTH 1/4 INCHES	YIELD IN FEET @ WIDTH 1/2 INCHES
1"	77.0	38.5
1 1/4"	61.6	30.8
1 1/2"	51.3	25.7
1 3/4"	44.0	22.0
2"	38.5	19.3
2 1/4"	34.2	17.1
2 1/2"	30.8	15.4
2 3/4"	28.0	14.0
3"	25.7	12.8
3 1/2"	22.5	11.2
4"	19.3	9.7
4 1/2"	17.4	17.4
5"	15.4	15.4

CLEANING AND DISINFECTING

Cleaning and disinfecting compounds and cleaning techniques may affect the color, gloss, or texture of an epoxy joint filler system. As a precautionary step, Hallemite recommends that the end user test the cleaning and disinfecting compounds on a sample or small finished area utilizing the intended cleaning technique prior to cleaning the entire surface area.

If no deleterious effects are observed, the procedure can be continued. However, if the cleaning and disinfecting compounds or cleaning technique damage the color, gloss, or texture, modification of the materials and/or procedures are required.
Contact the Company's Technical Service Department for more information.

CAUTION

Follow the MSDS for proper personal protective equipment to use when handling the product. Use only as directed. KEEP OUT OF REACH OF CHILDREN.